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| APPLICATION NO.          | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--------------------------|-------------|----------------------|---------------------|------------------|
| 10/631,932               | 07/30/2003  | Takeshi Kamikawa     | 299002051701        | 9642             |
| 25226                    | 7590        | 11/15/2005           | EXAMINER            |                  |
| MORRISON & FOERSTER LLP  |             |                      | SHENG, TOM V        |                  |
| 755 PAGE MILL RD         |             |                      | ART UNIT            |                  |
| PALO ALTO, CA 94304-1018 |             |                      | PAPER NUMBER        |                  |
|                          |             |                      | 2677                |                  |

DATE MAILED: 11/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/631,932 | <b>Applicant(s)</b><br>KAMIKAWA ET AL. |  |
|                              | <b>Examiner</b><br>Tom V. Sheng      | <b>Art Unit</b><br>2677                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-13 and 15-20 is/are rejected.
- 7) ☒ Claim(s) 6 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/711,353.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/26/2003</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 7-13 and 15-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Lebens et al. (US 6,095,661).

As for claim 1, Lebens et al. teaches a method for driving a light emitting apparatus comprising the steps of;

providing the light emitting apparatus (circuit 700; fig. 7; column 12, lines 5-24) including a light emitting section (LEDs 751) for emitting light (wavelength adjustable from 440 nm blue to 380 nm ultraviolet),

the light emitting section being an LED device (LEDs 751) which includes an InGaN quantum well layer as an active layer (using a normally blue LED made from GaN or InGaN; column 6, lines 37-44), and

a color of the light of the LED device being blue shifted with a change in value of a driving current (by pulsing the blue LED with sufficiently high current, the color would blue-shift from blue to ultraviolet);

supply a pulse current to the light emitting apparatus to drive the light emitting apparatus (the current value of transistor 755 is controlled by current control output of circuit 730), and controlling separately the peak value (i.e. the height of each pulse) and the duty ratio (directly related to the pulse width from control circuit 730 to transistor 750) of the pulse current. That is, Lebens teaches the control of color by the driving current and the control of intensity by the pulse width or pulse frequency. See also fig. 6 and column 11, line 52 through column 12, line 4 regarding the blue shift phenomenon.

As for claims 2, 8, 16 and 19, Lebens' teaching of current control from control circuit 730 corresponds to claimed control of color of light emitting by changing the peak value of the pulse current.

As for claims 3, 9, 17 and 20, Lebens' current control and pulse control correspond to claimed control of color of light and intensity of the light, respectively.

As for claims 4 and 10, shift range of 6 nm is within the operable range of (440 - 380) or 60 nm.

As for claims 5 and 11, Lebens teaches maintaining a constant intensity even as the pulse height is adjusted to change color (column 12, lines 5-14).

Claim 7 and 13 correspond to the claim 1 with the additional limitation of a fluorescent material excited by light emitted by the LED device. On this, Lebens further teaches the use of a white LED by utilizing a blue LED with a YAG phosphor that converts a portion of the blue light to yellow, thus yielding a white-appearing light output (column 9, lines 39-42).

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As for claim 12, inherently with a white LED, the change of color from the white LED (blue LED + phosphor) is larger than the change color from just the blue LED due to the yellow light emitted by the phosphor.

Claim 15 corresponds to claim 1 with the additional limitation of a plurality of light emitting apparatus which are disposed so as to form a shape of a plane. On this, Lebens teaches two embodiments where both have LEDs arranged on a plane (see fig. 1 or 5).

Claim 18 corresponds to claim 15 with the additional limitation of a fluorescent material excited by light emitted by the LED device. On this, Lebens further teaches the use of a white LED by utilizing a blue LED with a YAG phosphor that converts a portion of the blue light to yellow, thus yielding a white-appearing light output (column 9, lines 39-42).

### ***Allowable Subject Matter***

3. Claims 6 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
4. The following is a statement of reasons for the indication of allowable subject matter: none of the prior arts of record teaches the limitations "wherein the pulse current has a period equal to or less than 30ms and a pulse width equal to or larger than 0.2ns" of claims 6 and 14.

### ***Double Patenting***

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-5, 7-13, 15-20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 of U.S. Patent No. 6,628,249. Although the conflicting claims are not identical, they are not patentably distinct from each other because all the features regarding LED active layer, LED driving by means of peak current and duty ratio, shifting of color, and use of fluorescent material in the claims of this application are similarly taught by claims 1-22 of the patent. For example, with respect to claim 1, the LED device and the InGaN active layer are taught in claim 18 of the patent, while the blue shifting with a change in the value of a driving current and the separate control of peak value and duty ratio of the pulse current are taught in claim 10 of the patent.

### ***Conclusion***

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V. Sheng whose telephone number is (571) 272-7684. The examiner can normally be reached on 9:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Sheng  
October 30, 2005

AMR A. AWAD  
PRIMARY EXAMINER  
